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Seed germination reports for *Teucrium massiliense* and *T. flavum* subsp. *glaucum* (Lamiaceae)

Abstract

Porceddu, M., Barros Torres, S. & Bacchetta, G.: Seed germination reports for *Teucrium massiliense* and *T. flavum* subsp. *glaucum* (Lamiaceae) [In Magrini, S. & Salmeri, C. (eds), Mediterranean plant germination reports – 3]. Fl. Medit. 31: 264-266. 2021. <http://dx.doi.org/10.7320/FIMedit31.264>

The present work gathers new germination assays of two *Teucrium* species from Sardinia. The studied taxa are: *Teucrium massiliense* and *T. flavum* subsp. *glaucum*. Seeds were collected at the time of natural seed dispersal in two different localities of Sardinia (Italy). The germination tests were carried out at the Sardinian Germplasm Bank (BG-SAR). Our results showed a high germination capability and germination rate for the tested plant species.

Key words: Lamiaceae, Mediterranean species, Sardinia.

The genus *Teucrium* L. includes ca. 300 taxa belonging to the *Lamiaceae* family; their distribution is mainly concentrated in the Mediterranean region (Navarro & El Oualidi 2000). Many taxa of the genus *Teucrium* have been used in traditional medicine. Regarding the species studied for this report, *T. massiliense* L. has been used as antimalarial, febrifuge, and cicatrizing, while *T. flavum* subsp. *glaucum* (Jord. & Fourr.) Ronniger as cicatrizing, antiseptic, febrifuge, antirheumatic, and to treat sciatica and dislocation (Maccioni & al. 2021). Given the indisputable importance of these two species, understanding the reproductive mechanisms and indicating the best conditions for seed germination of these taxa are fundamental.

This work illustrated new germination data of these two *Teucrium* species collected in two different localities of Sardinia (Italy). The germination tests were carried out at the Sardinian Germplasm Bank (BG-SAR; Porceddu & al. 2017). Our results showed a high germination capability and germination rate for the tested plant species.

46. *Teucrium massiliense* L. (Lamiaceae)

Accession data

Sa: Gonnosfanadiga (Sud Sardegna), Foresta Demaniale Montimannu (WGS84: 39.443036°N, 8.648336°E), garrigue, 1022 m a.s.l., 03 Aug 2018, *M. Porceddu*,

G. Bacchetta, G. Calvia & S. Fantini (BG-SAR-2018-24, Sardinian Germplasm Bank).

Germination data

Pre-treatments: no treatment.

Germination medium: 1% agar.

Sample size: 100 seeds (25 × 4 replicates).

Germination	Thermoperiod	Photoperiod [light/dark]	T ₁ [d]	T ₅₀ [d]	T _{max} [d]	MTG [d]
84.0%	constant 10°C	12/12h	13.0	14.6	44.0	17.0
80.0%	constant 15°C	12/12h	9.0	9.3	36.0	11.7
80.0%	constant 20°C	12/12h	6.0	7.0	15.0	8.5
90.0%	constant 25°C	12/12h	6.0	8.8	36.0	12.5
87.0%	alternating 25/10°C	12/12h	10.0	11.3	28.0	13.2

Observations

Teucrium massiliense is an evergreen small shrub with grey-green leaves and rose-pink flowers that blooms from July to September. It grows wild in some areas of the Mediterranean basin, particularly in Sardinia and Corsica.

Seeds of *T. massiliense* germinated in a wide range of temperatures, from 10°C to 25°C; in addition, high germination percentage was also detected at alternating temperature 25/10°C. Low germination (ca. 30%) was detected at 5°C. Very few germination data are present in the literature for this species. The results obtained by BG-SAR for *T. massiliense* from Sardinia showed faster germination than rates reported in the RBG Kew's Seed Information Database (Royal Botanic Gardens Kew, 2021) for the same species.

47. *Teucrium flavum* subsp. *glaucum* (Jord. & Fourr.) Ronniger (*Lamiaceae*)

Accession data

Sa: San Vito (Sud Sardegna), loc. Bacu Is Angius (WGS84: 39.338719°N, 9.466844°E), garrigue and shrubs, 145 m a.s.l., 08 Aug 2018, *G. Bacchetta & G. Calvia* (BG-SAR-2018-37, Sardinian Germplasm Bank).

Germination data

Pre-treatments: no treatment.

Germination medium: 1% agar.

Sample size: 80 seeds (20 × 4 replicates).

Germination	Thermoperiod	Photoperiod [light/dark]	T ₁ [d]	T ₅₀ [d]	T _{max} [d]	MTG [d]
86.3%	constant 15°C	12/12h	7.0	9.5	16.0	11.3
81.3%	constant 20°C	12/12h	7.0	10.4	37.0	12.8

Observations

Teucrium flavum subsp. *glaucum* is an evergreen small shrub with green leaves and white flowers that blooms from May to July. It grows spontaneously in Sardinia, Calabria, Basilicata (Bartolucci & al. 2018), and in Corsica (Jeanmonod & Gamisans 2007). Seeds of *T. flavum* subsp. *glaucum* reached high germination percentages at 15 and 20°C. Germination of 49%, 45% and 71% were recorded at 10, 25 and 25/10°C, respectively, while no germination was observed at 5°C. Very few germination data are present in the literature for this species. The results obtained by BG-SAR for *T. flavum* subsp. *glaucum* from Sardinia are consistent with those reported by the RBG Kew's Seed Information Database (Royal Botanic Gardens Kew, 2021) for the same taxon, however, the seeds tested by BG-SAR showed faster germination, reaching the T₅₀ values within 11 days both at 15 and 20°C.

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